

32. An isolated, enriched or purified polypeptide comprising the amino acid sequence of SEQ ID NO: 15, 16 or 17.

33. A pharmaceutical composition comprising the polypeptide of claim 12.

34. The isolated, enriched or purified polypeptide of claim 33, wherein said non-PTO04 polypeptide is hemagglutinin or GST.

## REMARKS

### Status of the Claims

By this amendment, claims 10 and 11 are canceled, claim 12 is amended and claims 23-34 are added. Applicants reserve the right to pursue the subject matter of the canceled claims in subsequent divisional applications. The cancellation of claims does not constitute acquiescence in the propriety of any rejection set forth by the Examiner. Upon entry of this Amendment, claims 11 and 23-34 will be pending in the application.

Exemplary support for the amendments to claim 12 and newly added claims 23-34 is found in the specification as shown below. Claims 23-34 are added to further define claim scope.

<b>Claim #</b>	<b>Support</b>
12	original claim 10; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
23	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
24	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
25	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
26	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
27	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
28	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
29	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
30	original claims 10 and 12; page 16, line 27; page 17, line 1; page 52, line 4, through page 53, line 3
31	page 14, lines 8-14; page 21, lines 11-16
32	page 93, line 10 through page 94, line 6
33	page 60, lines 6-9; page 61, lines 14-17; page 63, line, 12, through page 67, line 25
34	page 14, line 14; page 21, line 16

**Claim Rejections - 35 U.S.C. §112, Second Paragraph**

Claim 12 is rejected by the Examiner under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner asserts that because claim 12 is drawn to a polypeptide that lacks one or more fragments of SEQ ID NO: 2, this may result in a structure that lacks all of the amino acids of SEQ ID NO: 2. Applicants have amended claim 12 so that it is clear that the structure does not lack all of the amino acids of SEQ ID NO: 2. Therefore, Applicants respectfully request reconsideration and withdrawal of the rejection.

**Claim Rejections - 35 U.S.C. §112, First Paragraph**

Claims 10-12 are rejected by the Examiner under 35 U.S.C. § 112, first paragraph, for lack of enablement. The Examiner asserts that while the specification is enabled for polypeptides that comprise the amino acid sequence set forth in SEQ ID NO: 2, it does not reasonably provide enablement for the full scope of the claimed genus. Applicants respectfully request reconsideration and withdrawal of the rejection.

Claims 10 and 11 are canceled, thus rendering the rejection of these claims moot.

With respect to claim 12, Applicants have amended this claim to recite that the polypeptide has 90% identity to the full length amino acid sequence set forth in SEQ ID NO: 2 or to particular amino acid sequences within SEQ ID NO: 2. As such, claim 12 is limited to specific sequences that are fully disclosed in the specification. A person of ordinary skill in the art, using techniques well known to those skilled in the art, would clearly be able to make the PTP04 polypeptide of claim 12. A person of ordinary skill in the art would also be able to use the polypeptide of claim 12. For example, the polypeptide of claim 12(a) is useful for its catalytic activity as a phosphatase enzyme. The polypeptides described in claim 12(b)-(d) are also useful. For example, use of a PTP04 polypeptide lacking at least one of the three major domains to form complexes with the natural binding partner of PTP04 is described on page 52, line 15, through page 53, line 3. Additionally, the polypeptides described in claim 12(b)-(d) may be used to generate anti-PTP04 antibodies, as described in Example 4. Therefore, the present specification provides enablement for claim 12, as amended.

**Claim Rejections - 35 U.S.C. §102**

A. Claims 10-12 are rejected by the Examiner under 35 U.S.C. § 102 (a) as being anticipated by Accession No. Q93095, Database SPTREMBL, 01 February 1997, Dayton, M.S. et al. The Examiner asserts that Q93095 teaches a polypeptide that comprises amino acids 164-243 of SEQ ID NO: 2, thus describing a sequence that lacks at least one of the domains listed in claim 12.

B. Claims 10-12 are rejected by the Examiner under 35 U.S.C. § 102 (b) as being anticipated by Matthews et al. (Matthews, R.J. et al., Mol. Cell. Biol. 12: 2396-2404, 1992).

The Examiner asserts that Matthews et al. teaches a polypeptide sequence that comprises amino acids 89-120 of SEQ ID NO: 2, thus describing a sequence that lacks at least one of the domains listed in claim 12.

C. Claims 10-12 are rejected by the Examiner under 35 U.S.C. § 102 (e) as being anticipated by Cheng et al. (U.S. Patent NO. 6,238,902). The Examiner asserts that Cheng et al. teaches a polypeptide that comprises the fragment of SEQ ID NO: 2, amino acids 790-802, thus describing a sequence that lacks at least one of the domains listed in claim 12. The Examiner further asserts that Cheng et al. teaches a polypeptide that has almost 90 percent sequence similarity over amino acids 24 to 294 of SEQ ID NO: 2.

Claims 10 and 11 are canceled, thus rendering the rejection of these claims moot.

Claim 12, as amended, is not anticipated by Accession No. Q93095, Matthews et al. or Cheng et al. Applicants have amended claim 12 to recite that the polypeptide has 90% identity to the full length amino acid sequence set forth in SEQ ID NO: 2 or to particular amino acid sequences within SEQ ID NO: 2. In contrast, the polypeptides taught by Accession No. Q93095 and Matthews et al. are smaller fragments that do not meet the limitations of claim 12. Additionally, the polypeptide of the present invention is not anticipated by the polypeptide of Cheng et al. because the polypeptide of Cheng et al. has less than 90% sequence identity to the full length amino acid set forth in SEQ ID NO: 2. The polypeptide of Cheng et al. also has less than 90% sequence identity to amino acid sequence set forth in amino acid residues 1-48, 49-294 or 295-807 of SEQ ID NO: 2. Since the polypeptides taught by Accession No. Q93095, Matthews et al. and Cheng et al. do not meet every limitation of the claimed invention, the claimed invention is not anticipated by the cited art. Therefore, Applicants respectfully request reconsideration and withdrawal of the rejections.

## CONCLUSION

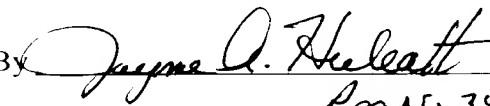
As the above-presented amendments and remarks address and overcome all of the rejections presented by the examiner, withdrawal of the rejections and allowance of the claims are respectfully requested.

If the examiner has any questions concerning this application, he or she is requested to contact the undersigned.

Respectfully submitted,

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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 19-0741 for any such fees; and applicant(s) hereby petition for any needed extension of time.

Version with Markings to Show Changes Made

12. (Amended) [The polypeptide of claim 11,] An isolated, enriched, or purified PTP04 polypeptide, wherein said polypeptide comprises [an amino acid sequence having];

- (a) an amino acid sequence comprising at least 90% identity to the full length amino acid sequence set forth in SEQ ID NO: 2;
- (b) an amino acid sequence comprising at least 90% identity to the full length amino acid sequence of the sequence set forth in SEQ ID NO: 2, except that it lacks [one or more of the following segments of] amino acid residues[:] 1-48, 49-294 [and] or 295-807 of SEQ ID NO: 2;
- (c) an amino acid sequence comprising at least 90% identity to the amino acid sequence set forth in [SEQ ID NO: 2 from] amino acid residues 1-48, 49-294, or 295-807 of SEQ ID NO: 2; or
- (d) an amino acid sequence comprising at least 90% identity to the full length amino acid sequence set forth in SEQ ID NO: 2 except that it lacks [one or more of the domains selected from the group consisting of] an N-terminal domain[, a catalytic domain, and] or a C-terminal domain [set forth in SEQ ID NO: 2].